AZIZBEKOV, Sh.A.; GADZHIYEV, T.G.; YEMEL'YANOVA, Ye.N.; RUSTAMOV,
M.I.; ABDULLAYEV, R.N., red.

[Petrology of the intrusives of the Araks tectonic zone in the Lesser Caucasus] Petrologiia intruzivov Araksinskoi tektonicheskoi zony Malogo Kavkaza. Baku, Izd-vo AN Azerb.SSR, 1964. 251 p. (MIRA 17:4)

Rustamov, M.I.

PHASE I BOOK EXPLOITATION SOV/2925

11(4)

Baku. Azerbaydzhanskiy nauchno-issledovatel'skiy institut neftepererabatyvayushchey promyshlennosti imeni V. V. Kuybysheva.

Sbornik trudov, vyp. 2. (Collection of Works, No. 2) Baku, Aznefteizdat, 1958. 373 p. Errata slip inserted. 500 copies printed.

Additional Sponsoring Agency: Azerbaydzhan. Ministerstvo neftyanoy promyshlennosti.

Ed. of Publishing House: T.B. Al'tman; Editorial Board: V.S. Aliyev, Candidate of Chemical Sciences, V.S. Gutyrya, Doctor of Chemical Sciences, N.M. Indukov, Candidate of Chemical Sciences, A.M. Kuliyev, Doctor of Chemical Sciences, V.Ya. Masumyan, Candidate of Technical Sciences, P.G. Suleymanova, Candidate of Chemical Sciences, N.B. Al'tman, Candidate of Chemical Sciences, A.M. Levshina, Candidate of Chemical Sciences, I.M. Orudzheva, Candidate of Technical Sciences, M.M. Melik-Zade, Candidate of Chemical Sciences.

PURPOSE: This collection of articles is intended for chemical engineers, technicians, and refiners concerned with advanced methods of petroleum conversion.

COVERAGE: The collection presents an analysis of different types of crudes extracted in Azerbaydzhan and of the products recovered from these crudes through petroleum conversion processes. The dewatering, desalting and demulsifying of crudes is described and the suitability of these crudes for the recovery of diesel fuels is discussed. Results of catalytic cracking performed over a fluidized bed synthetic catalyst and the chemical composition of gasoline produced by two-stage catalytic cracking are analyzed. Attrition and deactivation of catalysts as well as catalyst circulation in a hyper-flow system are reviewed. Various lube oil additives and the production of different types of oils and of carbon black are outlined. References accompany individual articles.

SOV/2925

Collection of Works, No. 2

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Indyukov, N.M., M.F. Kalanova, N.P. Pariyeva, and F.A. Kagramanova. Treatment of Distillates of Automobile Lubrication Oils 10 and 18 With Spent Sulfuric Acid From Alkylation 308
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ALIYEV, V.S.; RUSTAMOV, M.I.

Highly efficient system for carrying out contact-catalytic heterogeneous processes in a semicontinuous flow of fine-dispersed particles. Azerb. khim.zhur. no.4:7-13 '64. (MIRA 18:3)

RUSTAMOV, M.I.

Effect of the welding technique on resistance to wear in sliding friction. Izv. AN Azerb. SSR. Ser. fiz.-mat. i tekh. nauk no.5: 141-148 '63. (MIRA 17:3)

AZIZBEKOV, Sh.A.; RUSTAMOV, M.I.

Petrochemical characteristics of the Lower Pliocene effusive volcanism in the Nakhichevan fold area. Izv. AN Azerb. SSR Ser.geol.-geog.nauk nefti no.1:3-11 '62. (MIRA 15:5)
(Nakhichevan A.S.S.R.--Rocks, Igneous--Analysis)

RUSTAMOV, M. I., Cand Geol-Min Sci -- (diss) "Lower Pliocene vulcanism of the Nakhichevanskaya folded region." Baku, 1960. 17 pp; (Academy of Sciences Azerbaydzhan SSR, Inst of Geology im Academician I. M. Gubkin); 100 copies; price not given; (KL, 17-60, 145)

AZIZBEKOV, Sh.A.; RUSTAMOV, M.I.

Late Alpine extrusions and intrusions in the margin zone of the Nakhichevan plain. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.4: 51-64 '58. (MIRA 11:12)
(Nakhichevan A.S.S.R.--Geology, Structural)

РУСТАМОВ, М.И.

AZIZBEKOV, Sh.A.; RUSTAMOV, M.I.; GADZHIYEV, T.G.

Petrochemical characteristics of lower Pliozene intrusions and extrusions in the folded region of Nakhichevan. Dokl. AN Azerb. SSR 14 no.1:31-39 '58. (MIRA 11:2)

1. Institut geologii AN Azerbaydzhanskoy SSR.
(Nakhichevan A.S.S.R.--Rocks, Igneous)

AZIZBEKOV, Sh.A.; RUSTAMOV, M.I.

Extrusive volcanism of lower Pliocene in the Nakhichevan fold region.
Dokl. AN Azerb. SSR. 14 no.4:299-305 '58. (MIRA 11:5)

1. Institut geologii AN AzerSSR.
(Nakhichevan A.S.S.R.--Rocks, Igneous)

RUSTAMOV, M.I.

ALIYEV, V.S.; RUSTAMOV, M.I.; INDYUKOV, N.M.

Study of a pseudoliquidized layer of powdered coke and an aluminosilicate catalyst. Azerb.neft.khoz.36 no.2:27-31 F '57. (MIRA 10:4)

(Coke) (Aluminosilicates)

ALIYEV, V.S.; RUSTAMOV, M.I.; SEID-RZAYEVA, E.M.

Gas dynamic characteristics of finely dispersed materials in a reactor with an ascending through-flow. Azerb. khim. zhur. no.3:37-43 '64. (MIRA 18:5)

INDYUKOV, N.M.; RUSTAMOV, M.I.; SHTEYNSHNAYDER, G.M.

Determining the quantity of circulating catalysts in cracking processes using moving powdered catalysts. Khim.i tekh.topl.no.4:1-6 Ap '56. (MIRA 9:9)
(Catalysts) (Cracking process)

5000

Determination of the amount of powdered catalyst circulated in a cracking process. [illegible] M. [illegible] Rustamov and G. M. Shtelmakher [illegible] 1950 [illegible]

[illegible] rizing the [illegible] the [illegible] les [illegible] the amt. of cracking catalyst [illegible] $P h V_1$ where a_1 is % C in the spent catalyst [illegible] C in the regenerated catalyst, CO and CO_2 are %, by vol of these gases in the effluent gases, V_1 is vol. of air required for regeneration, γ sp. gr. of the effluent gas, t and P are temp and pressure in the circulating system, ΔP is the pressure drop, V_3 vol. of air supplied to the circulating system, h geometric height of the elevator. The values of [illegible] CO and CO_2 and those of ΔP [illegible] V_3 are easily obtained by chem. and tech. analysis.

A. P. Kotloby

RUSTAMOV, M.I.

Wear resistance of automatic hard facing during sliding friction. Dop. AN URSR no.6:778-782 '63 (MIRA 17:7)

1. Institut mekhaniki AN UkrSSR. Predstavleno akademikom AN UkrSSR F.P. Belyankinym [Bieliankin, F.P.].

ALIYEV, V.S.; RUSTAMOV, M.I.; SEID-RZAYEVA, E.M.

Determination of the kinetic parameters of oxidation of o-xylene to phthalic anhydride. Azerb. khim. zhur. no.1:63-68 '65. (MIRA 18:7)

1. Institut neftekhimicheskikh protsessov AN AzerSSR.

AZIZBEKOV, Sh.A.; BAGIROV, A.E.; GADZHIYEV, T.G.; RUSTAMOV, M.I.

Basic characteristics of metallogeny in the Aras tectonic zone. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.3:25-34 '65. (MIRA 18:9)

RUSTAMOV, M.I.; ALIYEV, V.S.

Effectoveness of various flow sheets for conducting catalytic heterogeneous processes on the surface of a finely dispersed catalyst. Azerb. khim. zhur. no.3:112-119 '65.

(MIRA 19:1)

1. Institut neftekhimicheskikh protsessov AN AzerSSR.

RUSTAMOV, M.M.

The bicarbonate method of determining Al ions absorbed by soil in the presence of absorbed H ions. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no. 4:131-136 '60. (MIRA 14:2)
(SOILS—ANALYSIS) (ALUMINUM)

RUSTAMOV, M.S.

Technical and economic indices of the mechanization of underground repair of wells. Azerb. neft. khoz. 38 no.7:33-35 Jl '59.
(MIRA 13:2)

(Oil wells--Equipment and supplies)
(Hoisting machinery)

RUSTAMOV, Magerram Sariyevich; KARAPETOV, K.A., red.; SHTEYNGEL', A.S., red. izd-va.

[Efficient use of the reserve capacity of deep bean well equipment] Voprosy ratsional'nogo ispol'zovaniia zapasa proizvoditel'nosti glubinnonasosnoi ustanovki. Baku, Azerbaidzhanskoe gos. izd-vo neft. i nauchno-tekhn. lit-ry, 1960. 106 p. (MIRA 14:7)

(Oil well pumps)

RUSTAMOV, M.S., inzh.

New equipment for deep-well heads. Bezop.truda v prom. 4 no.11:32-33 N '60. (MIRA 13:11)

1. Neftepromyslovoye upravleniye Karadagneft'.
(Oil wells—Equipment and supplies—Technological innovations)

KRUMAN, B.B.; RUSTAMOV, M.S.

Efficient use of the capacity of a deep-well installation.
Azerb. neft. khoz. 38 no.8:34-36 Ag '59. (MIRA 13:2)
(Oil well pumps)

RUSTAMOV, M.S.

Flow-production equipment with horizontal cross braces. Bezop.truda v prom. 6 no.6:23-24 Je '62. (MIRA 15:11)

1. Glavnyy inzh. neftepromyslovogo upravleniya Karagandaneft'.
(Oil wells—Equipment and supplies)

RUSTAMOV, M.S.

Increasing the productivity of pumping installations for extending the period between repairs of oil wells. Azerb.neft.khoz. 38 no.4:29-32 Ap '59. (MIRA 12:7)
(Oil wells--Equipment and supplies)

RUSTAMOV, M.S.

BABAYEV, M.B.; RUSTAMOV, M.S.; SYZRANTSEV, A.L.

Major repairing of extradeep condensate gas wells. Azerb. neft. khoz. 36 no.10:21-26 O '57. (MIRA 11:2)

(Apsheron Peninsula--Gas wells)

RUSTAMOV, M.Sh.

Universal method for determining the absorption capacity of soils. Izv. AN Azerb. SSR. Ser.biol. i med.nauk no.7:95-100 '61. (MIRA 16:7)

(SOIL ABSORPTION)

RUSTAMOV, M.S., inzh.

Unit for tearing off deep-well pumps. Bezop.truda v prom.
4 no.9:31 S '60. (MIRA 13:9)

1. Neftepromyslovoye upravleniye Karadagneft'.
(Oil well pumps)

ACC NR: AP7003001 (N) SOURCE CODE: UR/0413/66/000/024/0110/0110

INVENTOR: Rustamov, M. S.

ORG: none

TITLE: An immersible piston pump. Class 59, No. 189687

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 110

TOPIC TAGS: pump, hydraulic pump, WELL DRILLING MACHINERY

ABSTRACT: This Author Certificate presents an immersible piston pump for deep drill holes. The pump has a jointed cylinder consisting of separate coaxial cylinders placed in the casing. To diminish its wear, the pump is provided with a number of sleeves made of rigid plastic material. Each sleeve is firmly held in a corresponding cylinder and contains flanges pinched by the ends of adjacent cylinders. An annular groove is cut on the internal diameter of each cylinder (see Fig. 1). This groove forms a closed aperture against the wall of the corresponding elastic sleeve. The aperture is connected to the working chamber of the pump through radial ducts formed in the elastic sleeves. The lower part of the piston is provided with grooves of length equal to the length of the elastic cylinder sleeve.

Card 1/2 UDC: 621.684

ACC NR: AP7003001

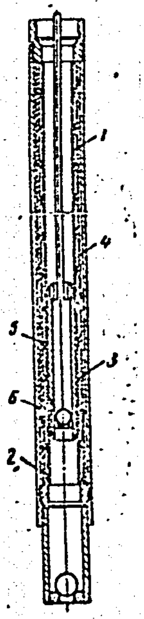

Fig. 1. 1 - sleeves; 2 - cylinders; 3 - shoulders; 4 - annular ring; 5 - radial ducts; 6 - grooves

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 20Nov65

Card 2/2

RUSTAMOV, M.S.

Some problems of washing-in sand-faced wells. Azerb. neft. khoz. 36 no.4:22-24 Ap '57. (MLRA 10:6)

(Oil well drilling)

USSR/Soil Science - Physical and Chemical Properties of Soil. J

Abs Jour : Ref Zhur Biol., No 19, 1958, 86746

Author : Rustamov, M.Sh.

Inst : AS Azerbaydzhan SSR

Title : Bicarbonate Method of Separate Determination of Aluminum and Hydrogen Ions Absorbed by the Soil When they Occur Together, and Certain Results of Its Application

Orig Pub : Dokl. AN AzerbSSR, 1957, 13, No 10, 1099-1104

Abstract : No abstract.

Card 1/1

RUSTANOV, M.Sh.

The bicarbonate method and some results of its use for separate determination of aluminum and hydrogen ions absorbed by the soil and simultaneously present in it. Dokl.AN Azerb.SSR 13 no.10:1099-1104 '57. (MIRA 10:12)

1. Predstavleno akademikom AN AzerSSR G.A.Aliyevym.
(Soils--Analysis) (Aluminum) (Hydrogen-ion concentration)

Rustamov, M. Sh.

RUSTAMOV, M.Sh.

Method for determining the absorption capacity of soils. Dokl. AN Azerb. SSR 16 no. 12:1217-1220 '60. (MIRA 14:2)

1. Pochvenno-erozionnaya stantsiya AN AzerSSR. Predstavleno akademikom AN AzerSSR G.A.Aliyevym.

(Soil absorption)

Rustamov, M. Sh.

1

2

Chem ✓ **A semiautomatic buret.** M. Sh. Rustamov. *Zavodskaya Lab.* 21, 124[illegible] (1955). A buret is described which is filled automatically [illegible]

RUSTAMOV, M.S.

Mounted suspension for pumping jacks. Bezop. truda v prom. 3 no.6:33 Je '59. (MIRA 12:10)

1.Glavnyy inzhener neftepromyslovogo upravleniya Karadagneft'
(Pumping machinery)

RUSTAMOV, M.Sh.

Semiautomatic burette. Zav.lab.21 no.10:1249-1251 '55. (MLRA 9:1)

1.Pochvenno-eroziynaya stantsiya Akademii nauk Azerbaydzhanskoy SSR.
(Burettes)

RUSTAMOV, M.Sh.

Bicarbonate method of determining H ions absorbed by the soil in the presence of absorbed Al ions. Izv.AN Azerb.SSR.Ser.biol.i med.nauk 3:41-46 '61. (MIRA 14:7)

(Soils--Analysis)

RUSTAMOV, M.Sh.

Nature of hydrolytic acidity in the red soils. Izv. AN Azerb. SSR. Ser. biol. i med.nauk no.5:85-88 '60. (MIRA 14:9)
(AZERBAIJAN—SOIL ACIDITY) (LATERITE)

RUSTAMOV, M. Sh.

Acetate method for determining Al ions absorbed in the soil in the presence of absorbed H ions. Dokl.An Azerb. SSR 17 no.5:415-417 '61. (MIRA 14:6)

1. Sektor erozii AN Azerbaydzhanskoy SSR. Predstavleno akademikom AN Azerbaydzhanskoy SSR G. A. Aliyevym.
(Aluminum—Analysis)

RUSTAMOV, M.Sh.

Nature of exchange acidity in Red soils. Izv.AN Azerb.SSR.Ser. biol.i med.nauk no.6:65-70 '62. (MIRA 15:12)
(SOIL ACIDITY) (SOILS, RED)

POLADOV, M.M., kand. sel'khoz. nauk, otv. red.; KHALILOV, A.G., prof., red.; RUSTAMOV, S.G., prof., red.; RUSTAMOV, N.G., red.; YAGMUROVA, T., red.izd-va; IBRAGIMOV, M., tekhn. red.

[Problems of the overall use and conservation of water resources in the Azerbaijan S.S.R.] Voprosy kompleksnogo ispol'zovaniia i okhrany vodnykh resursov Azerbaidzhanskoi SSR. Baku, Izd-vo AN Azerbaidzh. SSR, 1963. 462 p. (MIRA 17:2)

1. Akademiya nauk Azerbaidzhanskoy SSR. Baku. Sovet po izucheniyu proizvoditel'nykh sil.

MISKARLI, A.K.; GURVICH, M.M.; RUSTAMOV, N.R.

Weighting agents and their weighting capacity. Azerb. neft. khoz. 38 no.3:11-13 Mr '59. (MIRA 12:6)
(Oil well drilling fluids)

ABDULLAYEV, M.A.; RUSTAMOV, O.M.

Improving the design of the single-stage lift. Azerb. neft. khoz. 40 no.5:32-35 My '61. (MIRA 16:12)

RUSTAMOV, P.G.; CHERSTVOVA, V.B.; SAFAROV, M.G.

Interaction in the system GaSe - Ga_2Te_3. Azerb. khim. zhur. no.3:135-139 '65. (MIRA 19:1)

1. Institut khimii AN AzerSSR.

ACC NR: AP6036820 SOURCE CODE: UR/0316/66/000/004/0093/0097

AUTHOR: Rustamov, P. G.; Dzhalilzade, T. A.

ORG: Institute of Inorganic and Physical Chemistry, AN AzerbSSR (Institut neorganicheskoy i fizicheskoy khimii AN AzerbSSR)

TITLE: Liquidus curve of the gallium-sulfur-tellurium three-component system

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 4, 1966, 93-97

TOPIC TAGS: semiconducting material, gallium compound, binary compound, sulfide, telluride, phase diagram, solid solution

ABSTRACT: Reactions of gallium with sulfur and tellurium have been studied within certain binary cuts of the ternary phase diagram. The study is of importance for the synthesis of gallium chalcogenides which are potential semiconductor materials. A tentative liquidus curve of the Ga-S-Te system was plotted in a triangular model from the experimental data obtained with the Ga-S-Te alloys which were synthesized by ampul technique. Ten crystallization regions of individual phases were determined within the triangular model. The high-temperature component Ga_2S_3 occupied the largest crystallization region (57.3%). The crystallization regions of Ga_2S_3, Ga_4S_3, and $GaTe_3$ peritectic compounds were tentatively determined. Analysis of the data indicated the absence of continuous solid solutions over the entire concentra-

Card 1/2

ACC NR: AP6036820

tion range within any one of the binary cuts and the absence of ternary compounds in the system studied. Regions of solid solutions which extended up to 30 mol % of Ga_2Te_3 were present in the Ga_2S_3—Ga_2Te_3 and GaS—Ga_2Te_3 cuts of the triangular phase diagram. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 11,20/ SUBM DATE: 16Jan66/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: 5106

Card 2/2

RUSTAMOV. P. 6.

RUSTAMOV, F. G.

L 34191-65 EWT(m)/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD
ACCESSION NR AP5007527 S/0316/64/000/006/0097/0103 15

AUTHOR: Rustamov, P. G.; Mardakhayev, B. N.; Alidzhanov, M. A.; Safarov, M. G.

TITLE Solid solutions in the system gallium sulfide - gallium telluride

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no.6, 1964, 97-103

TOPIC TAGS: gallium sulfide, gallium telluride, diamond, semiconductor, phase diagram, solid solution, thermoelectromotive force, alloy conductivity

ABSTRACT: Compounds of type $A_2^{III}B_3^{IV}$, which crystallize in the defect structure of zinc blende, belong to the class of semiconductors of the diamond group. The authors studied the system Ga_2S_3 - Ga_2Te_3, both components being $A_2^{III}B_3^{IV}$-type compounds. Ten alloys of this system were prepared. Thermograms were recorded, the microstructure was examined, the microhardness was measured, and an x-ray phase analysis was performed. On the basis of these studies, a phase diagram of the system was plotted, and the critical temperatures were determined. The electrical conductivity, thermal conductivity, and thermo-emf of the alloys were measured as a function of temperature in cast samples. All the alloys were found to have semiconducting properties, which are fully tabulated. The data indicate that an in-

Card 1/2

L 34191-65
ACCESSION NR: AP5007527

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crease in the electrical conductivity of the alloys is due to an increase in charge carrier concentration and partly to an increase in mobility. Orig. art. has: 5 figures and 5 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: IC,MT,

NO REF SOV: 008 OTHER: 007

Card 2/2

RUSTAMOV, P.G.; MEL'NIKOVA, Z.D.; SAFAROV, M.G.; ALIDZHANOV, M.A.

Solid solutions in the system GaS - GaSe. Izv. AN SSSR. Neorg. mat. 1 no.3:419-421 Mr '65. (MIRA 18:6)

1. Institut khimii AN AzSSR.

L 23994-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(c) RDW/JD

ACCESSION NR: AR5011408 UR/0081/65/000/006/B063/B063

61
B

SOURCE: Ref. zh. Khimiya, Abs. 6B506

AUTHOR: Rustamov, P. G.; Alidzhanov, M.A.; Babayev, B.K.

TITLE: Electric and thermal conductivity and their temperature curve in the GaSe-GaTe system

CITED SOURCE: Tr. In-ta khimii. AN AzerbSSR, v. 20, 1964, 169-180

TOPIC TAGS: electric conductivity, heat conductivity, gallium compound, selenium compound, tellurium compound, temperature dependence

TRANSLATION: The electric conductivity (σ) and thermal conductivity in the GaSe-GaTe system in the 20-240°C temperature range were investigated. The width of the forbidden zone was calculated from the curves showing the dependence of σ on temperature. In the GaSe-GaTe system σ has semiconductor characteristics. R. F.

SUB CODE: 07

Card 1/1

L 05692-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6022885 SOURCE CODE: UR/0249/65/021/012/0008/0010

39
B

AUTHOR: Rustamov, P. G.; Zargarova, I. I.; Geydarova, E. A.

ORG: Institute of Inorganic and Physical Chemistry (Institut neorganicheskoy i fizicheskoy khimii)

TITLE: Solid solutions in the pseudobinary system $Ga_2Se_3-Ga_2Te_3$ 7

SOURCE: AN AzerbSSR. Doklady, v. 21, no. 12, 1965, 8-10

TOPIC TAGS: gallium compound, selenide, telluride, alloy phase diagram

ABSTRACT: Alloys of the $Ga_2Se_3-Ga_2Te_3$ system were prepared in evacuated and sealed quartz ampoules; their heating and cooling curves were recorded. The results are shown in Fig. 1. The fusibility curves show that the pseudobinary section $Ga_2Se_3-Ga_2Te_3$ constitutes a continuous series of solid solutions with a minimum at ~65 mole % Ga_2Te_3 and ~750°C. The microstructure confirms this diagram; the alloys of this system consist of a single phase. The composition-microhardness and density diagrams show a smooth variation of these properties with the composition, indicating the presence of a continuous series of solid solutions in this system. The paper was presented by Academician AN AzerbSSR Nagiyev, M. F. Orig. art. has: 2 figures and 1 table.

Card 1/2

L 05692-67

ACC NR: AP6022885

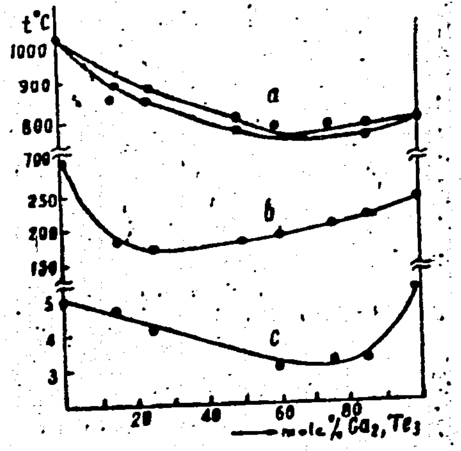

Fig. 1. Phase and composition-property diagrams of the Ga_2Se_3-Ga_2Te_3 system: a-fusibility; b-microhardness, kg/mm^2; c-density, g/cm.

SUB CODE: 11/ SUBM DATE: 10Nov64/ ORIG REF: 003

Card 2/2

L 06157-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6028575 (A) SOURCE CODE: UR/0316/66/000/003/0113/0116

AUTHOR: Rustamov, P. G.; Babayeva, B. K.; Cherstvova, V. B.

25
13

ORG: Institute of Inorganic and Physical Chemistry, AN AzerbSSR (Institut neorganicheskoy i fizicheskoy khimii AN AzerbSSR)

TITLE: Reaction of elemental selenium and tellurium with gallium telluride and selenide of type $A_2^{III}B_3^{VI}$

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 3, 1966, 113-116

TOPIC TAGS: selenium, tellurium, telluride, selenide, phase diagram, x ray diffraction study

ABSTRACT: Alloys of the sections Ga_2Se_3-Te and Ga_2Te_3-Se were synthesized in sealed, evacuated quartz ampoules, subjected to homogenizing annealing for 250 hr at 240 and 400 °C, and studied by thermal, x-ray diffraction, microstructural, and microhardness analyses. In the Ga_2Se_3-Te section, Te and Ga_2Se_3 form a mechanical mixture; the phase diagram of this section is shown in Fig. 1. A eutectic is formed at 440 °C and 97 at. % Te. In the Ga_2Te_3-Se section, a complex reaction occurs which forms Ga_2Se_3 and Te because Ga_2Se_3 is more stable than Ga_2Te_3 and Se is more electronegative than Te. Up to 7 at. % Se was found to dissolve in Ga_2Te_3; above this amount, Ga_2Se_3 is formed (transition point at 44 at. % Se and 740 °C). Thermal effects obtained at 410 and 190 °C correspond to ternary eutectics of the Ga-Se-Te system. Orig. art. has: 2

Card 1/2

L 06157-67
ACC NR: AP6028575

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figures and 2 tables.

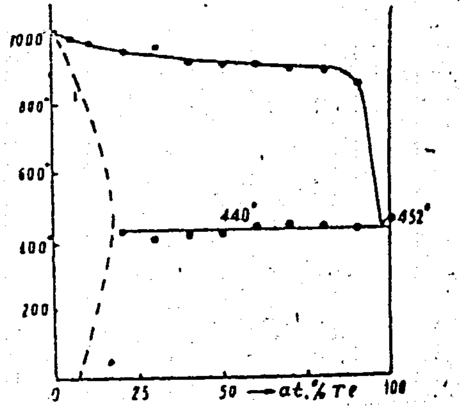

Fig. 1. Phase diagram of the Ga_2Se_3-Te section

SUB CODE: 11,07/ SUBM DATE: 26Mar65/ ORIG REF: 003/ OTH REF: 004

Card 2/2 hlc

L 31563-66

ACC NR: AP6005114 (A) SOURCE CODE: UR/0316/65/000/005/0090/0093

32

B

AUTHOR: Rustamov, P. G.; Dzhalilzade, T. A.

ORG: Institute of Inorganic and Physical Chemistry, AN Azerb. SSR (Institut neorganicheskoy i fizicheskoy khimii AN Azerb. SSR)

TITLE: Phase diagram of the $GaS-Ga_2Te_3$ section

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 5, 1965, 90-93

TOPIC TAGS: gallium compound, sulfide, telluride, annealing, solid solution, phase diagram

ABSTRACT: The $GaS-Ga_2Te_3$ section was studied before and after annealing at 670 ± 10C for 410 hr by using thermal analysis, microstructural analysis, and measuring the microhardness versus the composition. It was found that solid solutions are formed in this system in the concentration range up to 37 mole % GaS, and that a eutectic containing 52.5 mole % Ga_2Te_3 is formed at 740C (see Fig. 1). The $GaS-Ga_2Te_3$ section is quasi-binary. The presence of GaS facilitates the transition of Ga_2Te_3 from the zinc blende form to the wurtzite form; the decomposition of solid solutions based on the wurtzite form of Ga_3Te_3 takes place in the form of a peritectoid equilibrium. Ga_2Te_3 has the pronounced property of dissolving compounds of isoelectronic series of the type $A^{III}B^{V}$, $A^{III}B^{VI}$, and also $A_2^{III}B_3^{VI}$. Ga_2Te_3 does not form solid solutions in the concentration range studied. Orig. art. has: 3 figures and 1 table.

Card 1/2

L 31563-66

ACC NR: AP6005114

O

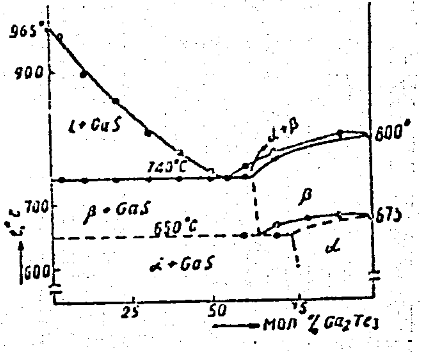

Fig. 1. Phase diagram of the GaS-Ga_2Te_3 section.

SUB CODE: 07,11/SUBM DATE: 04Jul64 / ORIG REF: 004 / OTH REF: 001

Card 2/2 LC

L-4278-66 EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD

ACCESSION NR: AP5024485 UR/0316/65/000/003/0135/0139

41

39
B

AUTHOR: Rustamov, P. G. 55; Cherstvova, V. B. 55; Safarov, M. G. 55

TITLE: Interaction in the GaSe-Ga_2Te_3 system

55,27 21 21,5

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 3, 1965, 135-139

TOPIC TAGS: gallium compound, selenium compound, tellurium compound, soli. solution, gallium alloy, tellurium alloy

ABSTRACT: Alloys of the GaSe-Ga_2Te_3 system were synthesized at 5-10 mole % intervals, and their thermograms were recorded before and after annealing at 580C. A compound of the approximate composition Ga_2SeTe and two eutectic points were found in the system. The density was studied as a function of composition, and the microhardness was measured before and after annealing. The microstructure displayed a complete homogeneity. A fusibility diagram of the GaSe-Ga_2Te_3 section was plotted; the system is quasibinary. X-ray phase analysis showed that solid solutions extending up to about 35 mole % GaSe form in the region rich in Ga_2Te_3. The dissolution of GaSe in Ga_2Te_3 is associated with a decrease in the lattice constant. Orig. art. has: 2 figures and 3 tables.

Card 1/2

L 4278-66

ACCESSION NR: AP5024485

2

ASSOCIATION: In-t khimii AN Azerb. SSR (Institute of Chemistry, AN Azerb. SSR)55

SUBMITTED: 31Jan64 ENCL: 00 SUB CODE: MM, GC

NO REF SOV: 010 OTHER: 006

Card 2/2

RUSTAMOV, P.G.; BABAYEVA, B.K.; LUZHNAYA, N.P.

Reaction of gallium with selenium. Izv. AN SSSR. Neorg. mat. 1 no.6:843-844 Je '65. (MIRA 18:8)

1. Institut khimii AN Azerb. SSR.

L 65122-65 EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) RDW/JD

ACCESSION NR: AP5018355 UR/0316/65/000/002/0100/0103

27

26

B

AUTHOR: Rustamov, P. G.; Dzhalilzade, T. A.

TITLE: Reaction of gallium sulfide with gallium telluride of the type $A^{III}B^{VI}$

21 21 27

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 2, 1965, 100-103

TOPIC TAGS: gallium sulfide, gallium telluride, phase diagram, phase equilibrium, x-ray diffraction analysis 14

ABSTRACT: The article presents the results of the investigation of one of the cross-sections of the Ga-S-Te system. The GaS-GaTe system was investigated by means of thermal, microstructural and x-ray diffraction analysis, measurements of microhardness and density. The system was investigated before and after annealing. Annealing was conducted at 570±10° C for 250 hours. The phase diagram of the GaS-GaT system, constructed on the bases of cooling curves is shown in Fig. 1. of the Enclosure. The system has solid solutions, rich in both components and a simple eutectic consisting of 45 mole % GaTe which melts at 770° C. To verify the phase diagram, x-ray powder patterns were taken on annealed samples. The x-ray data are in agreement with cooling curve data. Orig. art. has: 2 figures and 1 table.

Card 1/3

L 65122-65

ACCESSION NR: AP5018355

ASSOCIATION: Institut khimii AN Azerb SSR (Chemistry Institute AN Azerb SSR)

SUBMITTED: 03Feb64 ENCL: 01 SUB CODE: MM, IC

NO REF SOV: 004 OTHER: 003

Card 2/3

L 65122-65

ACCESSION NR: AP5018355

0

ENCLOSURE: 01

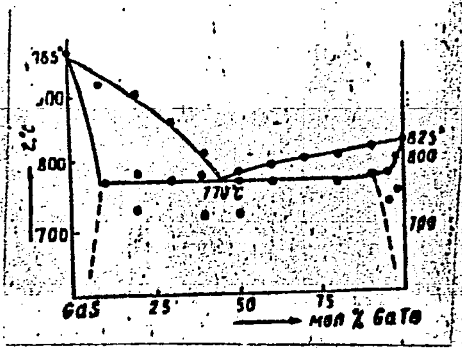

Fig. 1. Phase diagram of GaS-GaTe system after annealing

231

Card 3/3

L 60963-65 EWA(c)/EWT(m)/EWG(m)/EWP(b)/T/EWP(t) IJP(c) RDW/JD/JG

ACCESSION NR: AP5018913 UR/0363/65/001/006/0843/0844 28
546.681'231 26

AUTHOR: Rustamov, P. G.; Babayeva, B. K.; Luzhnaya, N. P. B
55 66 55

TITLE: Interaction of gallium and selenium
55 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 843-844
27

TOPIC TAGS: gallium, selenium, gallium selenide
16

ABSTRACT: The Ga - Se system was studied over a wide concentration range. The principal methods employed were thermal and x-ray phase analysis; in addition, the microstructure and microhardness were measured. A preliminary phase diagram of the system, given in Fig. 1 of the Enclosure, was plotted on the basis of the thermal analysis. Gallium and selenium form the compounds Ga_2Se, GaSe, and Ga_2Se_3. Phase separation occurs between 4 and 17 at. % Se at 920C. The compound Ga_2Se is formed via a peritectic reaction between the melt, which contains about 27 at. % Se, and the compound GaSe. The temperature of the peritectic reaction is 930C. A eutectic is formed between GaSe and Ga_2Se_3 at 55 at. % Se and 912C. On the Ga_2Se_3 - Se section of the diagram (60-100 at. % Se), the eutectic is degenerate and has a melting point of 220 ± 5C. The thermal

Card 1/3

L 60963-65

ACCESSION NR: AP5018913 2

analysis data are in complete agreement with the results of the x-ray phase analysis. The powder patterns obtained for GaSe and Ga_2Se_3 agree well with the literature data. The difference in the powder pattern of Ga_2Se from the patterns of Ga_2Se_3 and GaSe confirms the individuality of this compound. Orig. art. has: 1 figure.

ASSOCIATION: Institut khimii Akademii nauk AzerbSSR (Institute of Chemistry, Academy of Sciences, AzerbSSR) 55

SUBMITTED: 26Feb65 ENCL: 01 SUB CODE: IC,

NO REF SOV: 004 OTHER: 003

Card 2/3

L 60963-65

ACCESSION NR: AP5018913 ENCLOSURE: 01

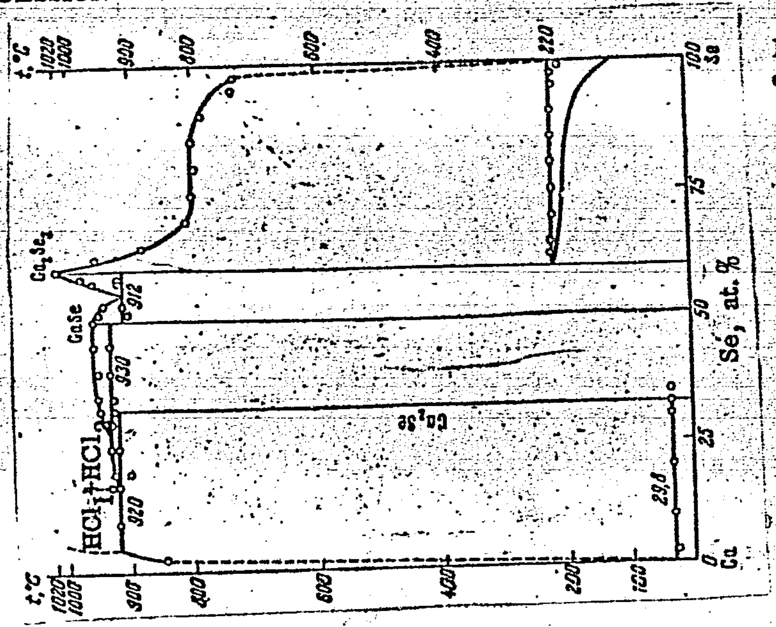

Figure 1. Phase diagram of the Ga - Se system.

Card 3/3

L 54816-65 EWT(1)/EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c)
RDW/JD/AT

ACCESSION NR: AP5011941 UR/0363/65/001/003/0419/0421
54—165+546.681'221+546.681'231

39

38

B

AUTHOR: Rustamov, P. G.; Melikova, Z. D.; Safarov, M. G.; Alidzhanov, M. A.

TITLE: The GaS-GaSe system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 419-421

TOPIC TAGS: gallium sulphide, gallium selenide, gallium sulphide alloy, gallium selenide alloy, semiconductor

ABSTRACT: Nine alloys of the GaSe—GaS system containing 10 to 90 mol% GaS have been investigated. Thermal analysis and x-ray diffraction patterns showed that GaS and GaSe form a continuous series of solid solutions, with a minimum liquidus-solidus curve at 895C and 68 mol% GaS (see Fig. 1 of the Enclosure.) The composition dependence of the lattice parameter is linear and follows the Wegard law. All the investigated alloys are p-type semiconductors. The maximum electroconductivity and the minimum heat conductivity are observed in alloys containing 40—60 mol% GaS. The thermal emf in these alloys changes from +4.71 to +4.81 μv/c, the activation energy from 0.30 to 0.285 ev, the charge-carrier concentration from $3.7 \cdot 10^{14}$ to $1.5 \cdot 10^{14}$ cm^{-3}, and the charge-carrier mobility from

L 54816-65

ACCESSION NR: AP5011941

14.6 to 12.4 $cm^2/v \cdot sec$. The alloys of the GaS-GaSe system are soluble in HCL and HNO_3 acids, but are not soluble in H_2SO_4, KOH, NaOH, and organic solvents. [WW] Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Institut khimii Akademii nauk AzerbSSR (Institute of Chemistry, Academy of Sciences AzerbSSR)

SUBMITTED: 04Jul64	ENCL: 01	SUB CODE: MM, SS
NO REF SOV: 003	OTHER: 002	ATD PRESS: 4029

Card 2/3

L 54816-65

ACCESSION NR: AP5011941

ENCLOSURE: 01

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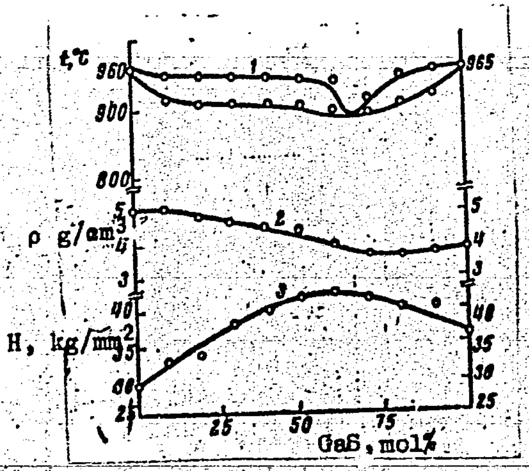

Fig. 1. GaS-GaS system

1 - Constitution diagram; 2 - density; 3 - microhardness.

Card 3/3

Rustamov, P. G.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3817.

Author : P.G. Rustamov.
Inst : Academy of Sciences of Azerbaijan SSR.
Title : Polytherm of Reciprocal Chloride and Sulfate Systems of Sodium and Potassium.

Orig Pub: AzerbSSR elmer Akad. heberleri. Izv. AN AzerbSSR, 1957, No 4, 33-45.

Abstract: The solubility of the sodium and potassium chloride and sulfate system in water was studied by the visual-polythermal method from -23.6° (complete freezing of solutions) to +30°. Isotherms for every 5° were plotted; the polytherm to +100° was plotted based on bibliographical and experimental data. The bottom border of glaserite existence is at about -8°, and that of anhydrous NaCl is at about -3.6°. Numerical material and the iso-

-53-

Card : 1/2

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3817.

therm projection on the base square are given. The equilibrium graph of the aqueous system may be used in practice for the complex solution of the problem of Zaglik alunites in Azerbaijan SSR and in the problem of KCl conversion into K_2SO_4 and glaserite.

Card : 2/2

RUSTAMOV, P.G.; MARDAKHAYEV, B.N.

Solubility in the ternary system SeO_2 - Na_2O - H_2O at 25°C. Azerb.khim. zhur. no.4:131-140 '63. (MIRA 17:2)

RUSTAMOV, P.G.,

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26185 D.

Author : P.G. Rustamov
Inst : Rostov University
Title : Polytherm of Mutual System of Socium and Potassium Chloride and Sulfates.

Orig Pub : Avtoref. diss. kand. khim. n. Rostovsk. un-t, Baku 1956

Abstract : No abstract

Card : 1/1

RUSTAMOV, P.G.; MARDAKHAYEV, B.N.

Methods of synthesis of alloys and compounds involving sulfur.
Dokl. AN Azerb. SSR. 20 no.9:13-15 '64. (MIRA 18:1)

1. Institut khimii AN AzerSSR. Predstavleno akademikom AN
AzerSSR A.M. Kuliyevym.

RUSTAMOV, P.G.; DZHALILZADE, T.A.

Interaction between gallium sulfide and telluride of the type $A^{III}B^{VI}$. Azerb. khim. zhur. no. 2:100-103 '65. (MIRA 18:12)

1. Institut khimii AN AzerSSR. Submitted Febr. 3, 1964.

RUSTAMOV, F.G.; BABAYEVA, B.K.; SAFAROV, M.G.

Interaction in the system gallium selenide - gallium
telluride (A^{III} B^{VI} -type). Azerb. khim. zhur. no.1:
133-138 '64. (MIRA 17:5)

RUSTAMOV, P.G.; BERGMAN, A.G.

Visual polythermal study of aqueous reciprocal systems of sodium and potassium chlorides and sulfates at 0;5;10 and 15 °C. Zhur. neorg. khim. 3 no.9:2184-2191 S '58. (MIRA 11:10)

1. Institut khimii AN Azerb. SSR i Rostovskiy gosudarstvennyy universitet.
(Sodium salts) (Potassium salts) (Systems (Chemistry))

Reaction of selenides of gallium and a lanthanide (arium and samarium of the type $A_2^{III}B_3^{VI}$. G. Kh. Efendiyev, E. Sh. Karayev, I. O. Nasilov.

Solid solutions in the quasibinary systems Ga_2S_3-Ga_2Te_3 and Ga_2S_3-Ga_2Se_3. P. G. Rustanov, B. I. Mardakhayev, E. Melikova, M. Alidzhanov, M. Safarov. (Presented by G. Kh. Efendiyev--10 minutes).

Chemical bonding, structure of the energy zones and some properties of semiconducting compounds of rare earth elements with selenium. G. F. Karavayev (10 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

BERGMAN, A.G.; RUSTAMOV, P.G.

Isotherms at 20°; 25° and 30°C of aqueous reciprocal system of sodium and potassium chlorides and sulfates. Zhur. neorg. khim. 3 no.9: 2192-2199 S '58. (MIRA 11:10)

1. Institut khimii AN Azerb. SSR i Rostovskiy gosudarstvennyy universitet.
(Sodium salts) (Potassium salts) (Systems (Chemistry))

RZA-ZADE, P.F.; RUSTAMOV, P.G.

Solubility of gypsum in oil well water. Azerb.khim.zhur.
no.4:89-94 '60. (MIRA 14:8)
(Gypsum) (Oil wells)

AUTHORS: Rustamov, P. G., Bergman, A. G. SOV/78-3-9-29/38

TITLE: Visual-Polythermal Analysis of Aqueous Reciprocal Systems of Sodium and Potassium Chlorides and Sulfates at Temperatures of 0, 5, 10 and 15°C (Vizual'no-politermicheskoye issledovaniye vodnoy vzaimnoy sistemy iz khloridov i sul'fatov natriya i kaliya pri 0; 5; 10 i 15°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2184-2191 (USSR)

ABSTRACT: It is the purpose of the analysis under review to determine the solubility of the aqueous reciprocal systems of sodium and potassium chlorides and sulfates at 0, 5, 10 and 15°C. The investigation of the system Na, K | Cl, $SO_4 \cdot H_2O$ was carried out by the visual-polythermal method. The isotherms at 0°C show that there are five regions of crystallization: NaCl, KCl, $Na_2SO_4 \cdot 10H_2O$, K_2SO_4 and $NaK_3(SO_4)_2$. Five regions of crystallization of potassium sulfate and Glauber's salt can be seen from the isotherms at 5°C. At 10°C, also five regions of crystallization can be seen from the isotherms; the separation of glaserite increases, whereas the region of Glauber's salt

Card 1/2

SOV/78-3-9-29/38

Visual-Polythermal Analysis of Aqueous Reciprocal Systems of Sodium and Potassium Chlorides and Sulfates at Temperatures of 0, 5, 10 and 15°C

decreases. At 15°C, there are again five isothermal regions of crystallization to be seen in the isotherms: NaCl, $Na_2SO_4 \cdot 10H_2O$, KCl, K_2SO_4 and glaserite. There is an increase in the region of glaserite at 15°C at the expense of Glauber's salt, but Glauber's salt still covers a comparatively large region. There are 8 figures, 4 tables, and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Azerb.SSR (Institute of Chemistry, Academy of Sciences - Azerbaydzhan SSR); Rostovskiy gosudarstvennyy universitet (Rostov State University)

SUBMITTED: June 17, 1957

Card 2/2

AUTHORS: Bergman, A. G., Rustamov, P. G. SOV/78-3-9-30/38

TITLE: Isotherms at 20, 25 and 30°C in Aqueous Reciprocal Systems of Sodium and Potassium Chlorides and Sulfates (Izotermy 20, 25 i 30° vodnoy vzaimnoy sistemy iz khloridov i sul'fatov natriya i kaliya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2192-2199 (USSR)

ABSTRACT: The paper under review deals with the solubility in the system $Na, K \| Cl, SO_4 + H_2O$. The system was analyzed by the visual-polythermal method. An investigation was made of two diagonals and seven interior sections of the square of composition of the system $Na, K \| Cl, SO_4 + H_2O$. With the results of the investigation of these sections the isotherms at 20, 25 and 30°C were represented graphically. At the isotherm at 20°C "tenardite" is formed. The region of Glauber's salt is reduced, however, the regions of crystallization of glaserite and "tenardite" increase. The isotherm at 25°C is characterized by a considerable decrease of the region of Glauber's salt and by an increase of the regions of glaserite and "tenardite". Regions of crystal-

Card 1/2

SOV/78-3-9-30/38

Isotherms at 20, 25 and 30°C in Aqueous Reciprocal Systems of Sodium and Potassium Chlorides and Sulfates

lization with a larger content of potassium were formed, that are characterized by lesser density and viscosity of the solution. In the presence of larger amounts of sodium, density and viscosity increase. Under the influence of sodium salt there is an increase in the hydration and association of the molecules. Six regions of crystallization can be seen in the solubility diagram: NaCl, KCl, $Na_2SO_4 \cdot 10H_2O$, Na_2SO_4, K_2SO_4 and $NaK_3(SO_4)_2$. There are 5 figures, 4 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk Azerb.SSR (Institute of Chemistry, Academy of Sciences, Azerbaydzhan SSR); Rostovskiy gosudarstvennyy universitet (Rostov State University)

SUBMITTED: June 17, 1957

Card 2/2

RUSTAMOV, P.G.

Studying the reciprocal aqueous system of sodium and potassium chlorides and sulfates at -20, -15, -10, and -5°. Izv.AN Azerb. SSR no.5:45-48 My '57. (MIRA 10:8)
(Phase rule and equilibrium) (Chlorides) (Sulfates)

RZA-ZADE, P.F.; RUSTAMOV, P.G.

Solubility isotherm of the system NaCl - $MgCl_2$ - $CaSO_4$ - H_2O at 25 . Azerb.khim.zhur. no.6:119-125 '60. (MIRA 14:8)
(Systems (Chemistry)) (Solubility)

RZA-ZADE, P.F.; RUSTAMOV, P.G.; GEYDAROVA, E.A.

Interaction of second group metal metaborates. Azerb.khim.zhur. no.5:113-118 '61. (MIRA 15:5)
(Alkaline earth borates)

RZA-ZADE, P.F.; RUSTAMOV, P.G.

Study of fusibility systems. Trudy Inst.khim. AN Azerb.SSR 18:
38-46 '60. (MIRA 14:9)
(Systems (Chemistry)) (Melting points) (Drilling fluids)

RZA-ZADE, P.F.; RUSTAMOV, P.G.

Isothermal crystallization of alkaline oil well waters. Azerb. khim.zhur. no.1:77-93 '61. (MIRA 14:8)
(Oil wells) (Water--Composition)

RUSTAMOV, F. G.:

RUSTAMOV, F. G.: "The polytherm of the mutual system of chlorides and sulfates of sodium and potassium." Published by the Acad Sci Azerbaydzhan SSR. Rostov State U imeni V. M. Molotov. Baku, 1956. (Dissertation for the Degree of Candidate in Chemical Science.)

So: Knizhnaya letopis' no. 36 1956 Moscow.

L 18953-65 EWT(m)/T/EWP(t)/EWP(b) IJP(c)/AFWL/ASD(a)-5/ESD(t) RDW/JD

ACCESSION NR: AP4049428 S/0316/64/000/001/0133/0138

AUTHOR: Rustamov, P. G.; Babayeva, B. K.; Safarov, M. G.

TITLE: Interactions in the gallium telluride-gallium selenide system (type A-III, B-VI)

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 1, 1964, 133-138

TOPIC TAGS: gallium telluride, gallium selenide, telluride selenide system, semiconductor, phase diagram, quasibinary system

ABSTRACT: Alloys of 5-95% GaSe and 5-95% GaTe were melted and cooled at 100-150C per hour using the transition points recorded for the established phase diagram (see Fig. 1 of the Enclosure). At 820C this diagram shows a new compound, Ga_2SeTe, containing 45-78 mol.% GaTe and forming a eutectic with GaSe at 762C and one with GaTe at 742C. The existence of the compound was checked by X-ray phase analysis, microhardness determination and metallography using 100 g $CuSO_4 \cdot 5H_2O$ in 500 cc HCl, 25 cc H_2SO_4 and 400 cc H_2O for etching the tellurides. The difference in space lattice parameters reduces the amount of solid solution formed, which decomposes into Ga_2TeSe. Apparently, the Ga_2^{4+} ion is responsible for the Ga_2SeTe phase; this compound is a semiconductor, the electrical conductivity of which increases with

Card 1/3

L 18953-65
ACCESSION NR: AP4049428

temperature faster than that of GaTe and GaSe. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: IC, EC

NO REF SOV: 003

OTHER: 005

Card 2/3

L 18953-65

ACCESSION NR: AP4049428

ENCLOSURE: 01

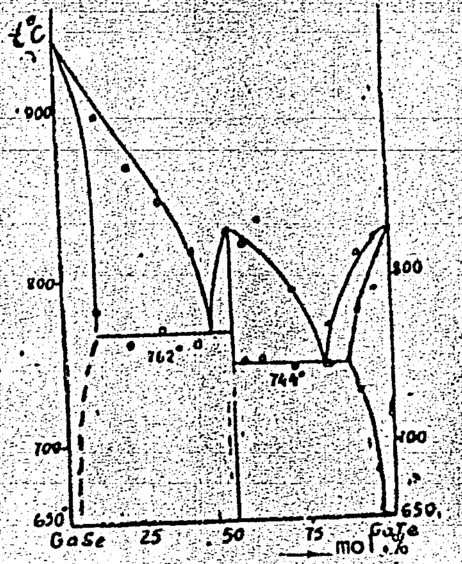

Fig. 1. Phase diagram of the GaSe-Gate system.

Card 3/3

L 17078-65

S/0249/64/020/009/0013/0015

ACCESSION NR: AP5000090

AUTHOR: Rustamov, P. G.; Mardakhayev, B. N.

TITLE: Preparative methods for alloys and compounds using sulfur B

SOURCE: AN AzerbSSR. Doklady, v. 20, no. 9, 1964, 13-15

TOPIC TAGS: semiconducting alloy, semiconducting alloy preparation, semiconducting compound, semiconducting compound preparation, gallium sulfide, gallium trisulfide
27 27

ABSTRACT: Because of the disadvantages of conventional preparative methods for semiconducting alloys and compounds, a new visually controlled "semihorizontal" two-temperature method has been developed and used to prepare GaS and Ga_2S_3. The new method consists of two steps. In the first step an evacuated quartz ampul containing metallic gallium and elemental sulfur is placed in a furnace which is in a semihorizontal position with the empty top of the ampul outside the furnace. When the furnace temperature exceeds the melting point of the product, a temperature gradient is established between the top and the bottom of the ampul. The temperature of the top is regulated manually by raising or lowering the ampul into the furnace (and with additional water-cooling at higher temperature) on the basis of visual observation of the amount of condensed sulfur. As the reaction proceeds,

Card 1/2

L 17078-65

ACCESSION NR: AP5000090

the ampul is gradually lowered into the furnace. The second step is the vertical positioning of the furnace and the maintenance of the ampul at a uniform temperature inside the furnace. The overall reaction time is 2—4 hr for 18 g of gallium sulfide free of free sulfur. The resulting GaS and Ga_2S_3 have melting points of 965 and 1120 ± 10C, respectively. It was concluded that this method can be used for other systems in which one of the components is highly volatile. It is claimed that the use of vibration would decrease the above reaction time. The simplicity of the apparatus makes it more acceptable for this type of preparation than existing conventional methods. Orig. art. has: 1 figure.

ASSOCIATION: Institut khimii AN AzerbSSR (Institute of Chemistry, AN AzerbSSR)

SUBMITTED: 25May63 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 003 OTHER: 004 ATD PRESS: 3148

RUSTAMOV, ~~P.G.~~

Fusibility curve of the ternary system consisting of lithium, sodium, and magnesium metaborates. Azerb.khim.zhur. no.3:71-75 '59. (MIRA 14:9)

(Lithium borate) (Sodium borate) (Magnesium borate)

RZA-ZADE, P.F.; RUSTAMOV, P.G.

Visual-polythermal investigation of the fusibility of the systems $LiBO_2$ - $NaBO_2$, $LiBO_2$ - KBO_2, $LiBO_2$ 0 $Ca(BO_2)_2$, and $LiBO_2$ - Mg $BO_2)_2$. Azerb.khim.zhur. no.3:65-69 '59. (MIRA 14:9)
(Systems (Chemistry)) (Borates)

RUSTAMOV, R., Geroy Sotsialisticheskogo Truda

Using a weighted drill pipe in deep drilling. Neftianik 5 no.1:8-10 Ja '60. (MIRA 13:11)

1. Burovoy master kontory bureniya No.2 tresta Azmornefterazvedka.
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(Cotton) (Gamma rays)